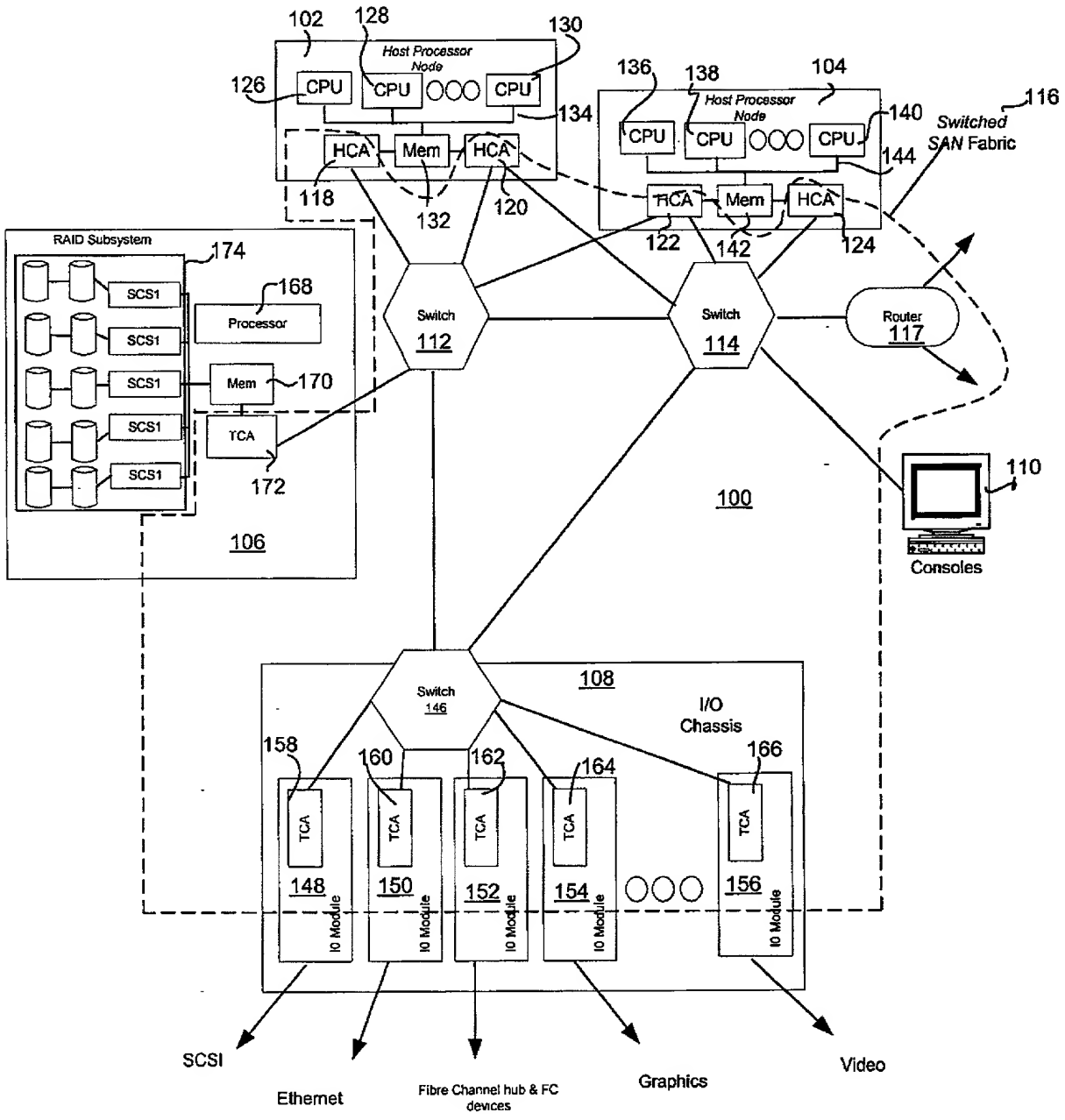
EF409652433US

Figure 1



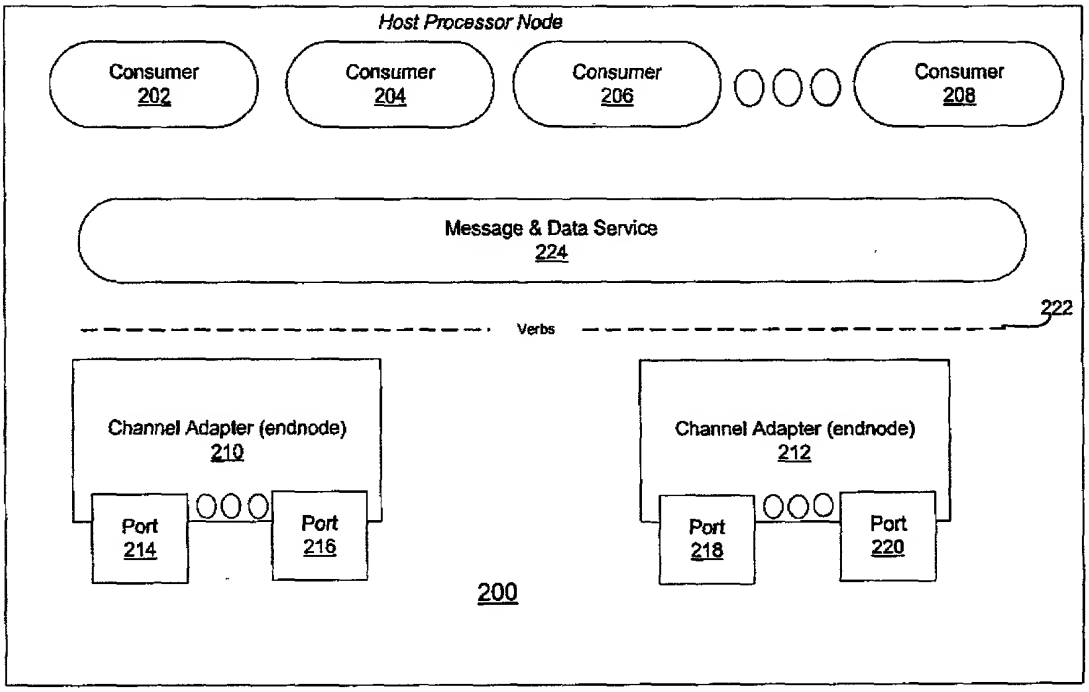

Host Processor Node
Consumer 202
Consumer 204
Consumer 206
Consumer 208
Message & Data Service 224
Verbs
222
Channel Adapter (endnode) 210
Port 214
Port 216
Channel Adapter (endnode) 212
Port 218
Port 220
200

Figure 2

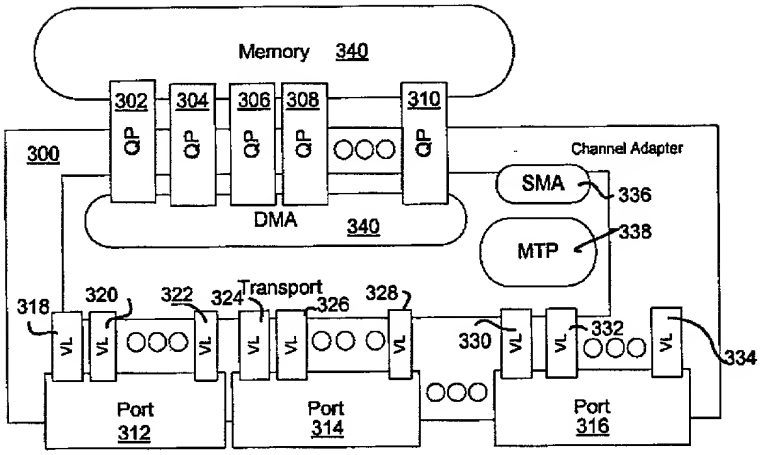

Memory 340
302
304
306
308
310
QP
300
Channel Adapter
SMA
336
DMA 340
338
MTP
318
320
322
324
Transport
326
328
330
332
334
VL
Port 312
Port 314
Port 316

Figure 3

Figure 4

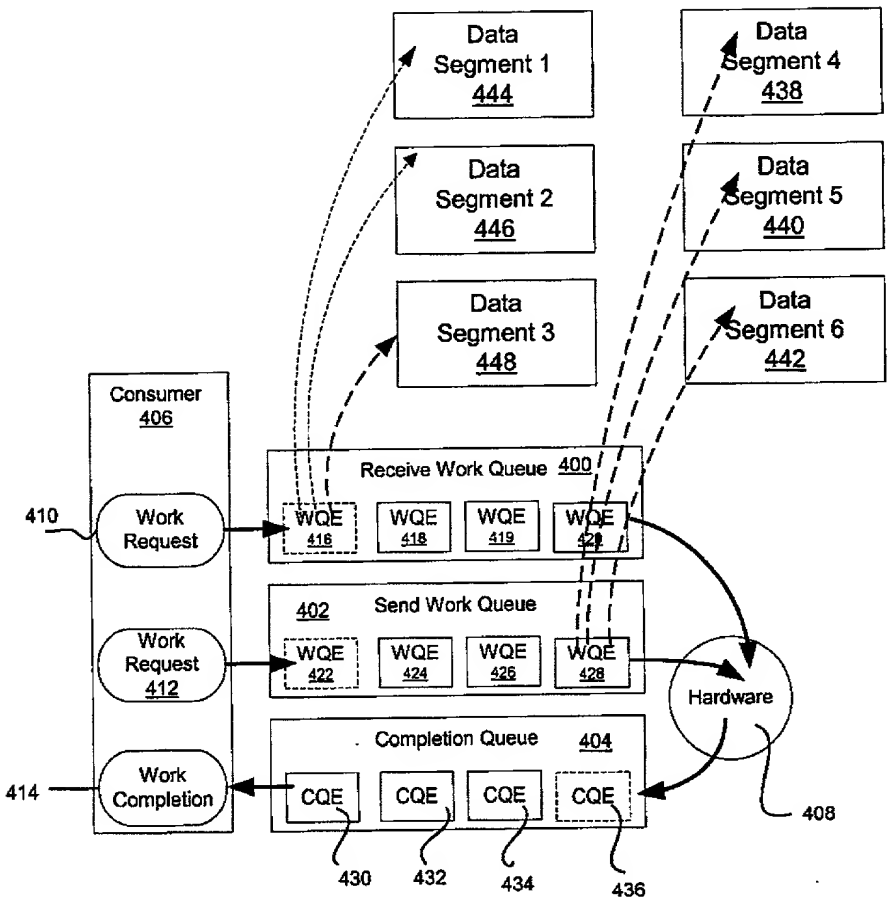
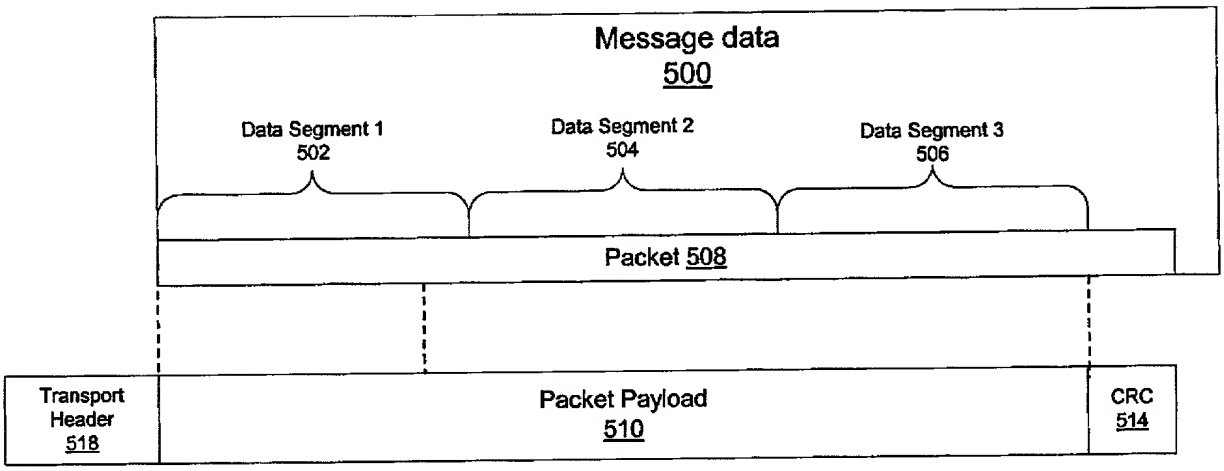

Data Segment 1 444
Data Segment 2 446
Data Segment 3 448
Data Segment 4 438
Data Segment 5 440
Data Segment 6 442
Consumer 406
Receive Work Queue 400
WQE 416
WQE 418
WQE 419
WQE 420
410
Work Request
402
Send Work Queue
WQE 422
WQE 424
WQE 426
WQE 428
Work Request 412
Hardware
Completion Queue 404
CQE
CQE
CQE
CQE
414
Work Completion
408
430
432
434
436

Figure 5


Message data
500
Data Segment 1
502
Data Segment 2
504
Data Segment 3
506
Packet 508
Transport
Header
518
Packet Payload
510
CRC
514

512

Figure 6

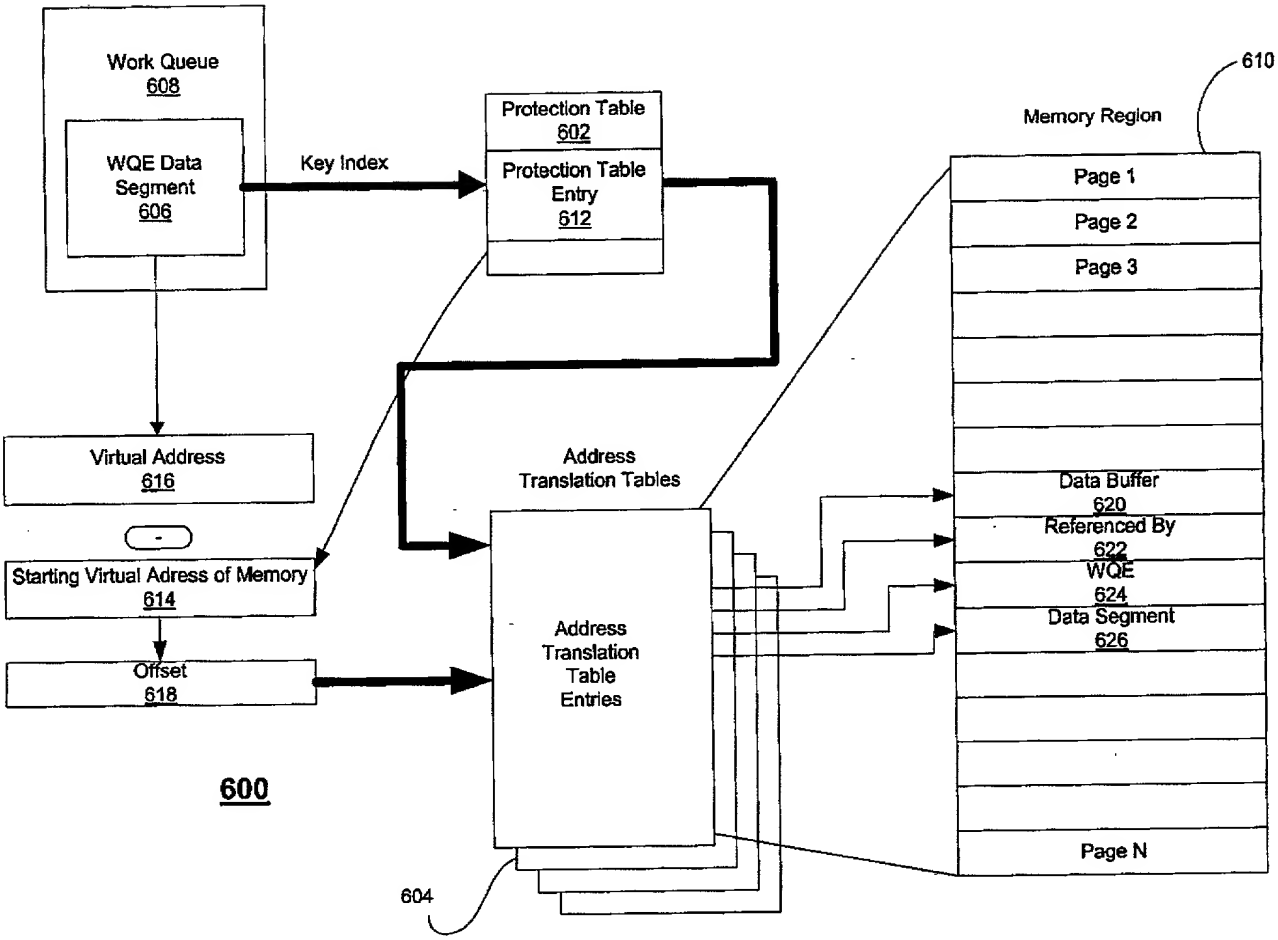

Work Queue
608
WQE Data
Segment
606
Key Index
Protection Table
602
Protection Table
Entry
612
610
Memory Region
Page 1
Page 2
Page 3
Virtual Address
616
Address
Translation Tables
Data Buffer
620
Referenced By
622
WQE
624
Data Segment
626
Starting Virtual Adress of Memory
614
Offset
618
Address
Translation
Table
Entries
Page N
600
604

Figure 7

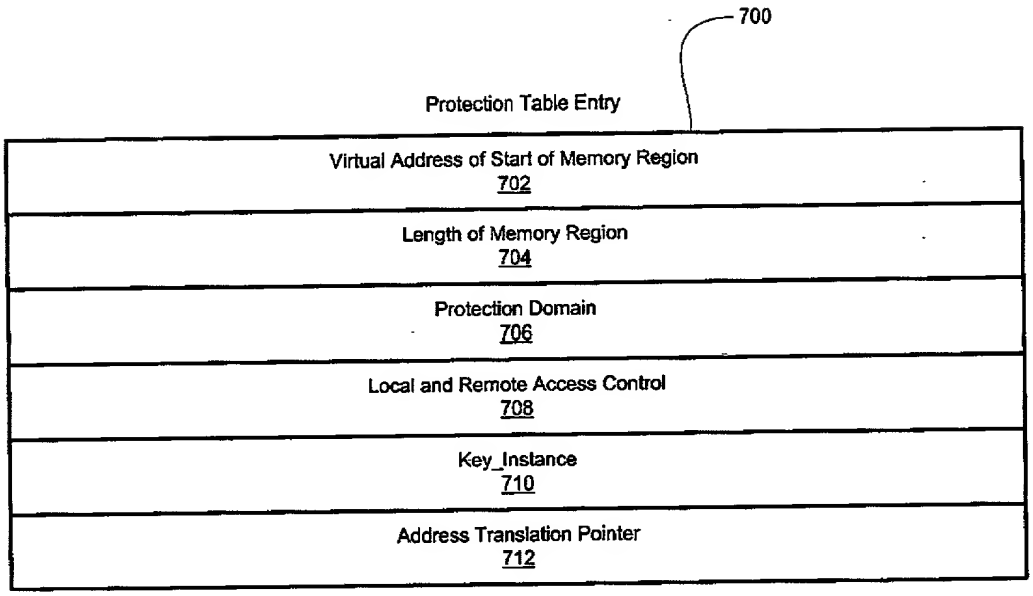

700
Protection Table Entry
Virtual Address of Start of Memory Region
702
Length of Memory Region
704
Protection Domain
706
Local and Remote Access Control
708
Key_Instance
710
Address Translation Pointer
712

Figure 8

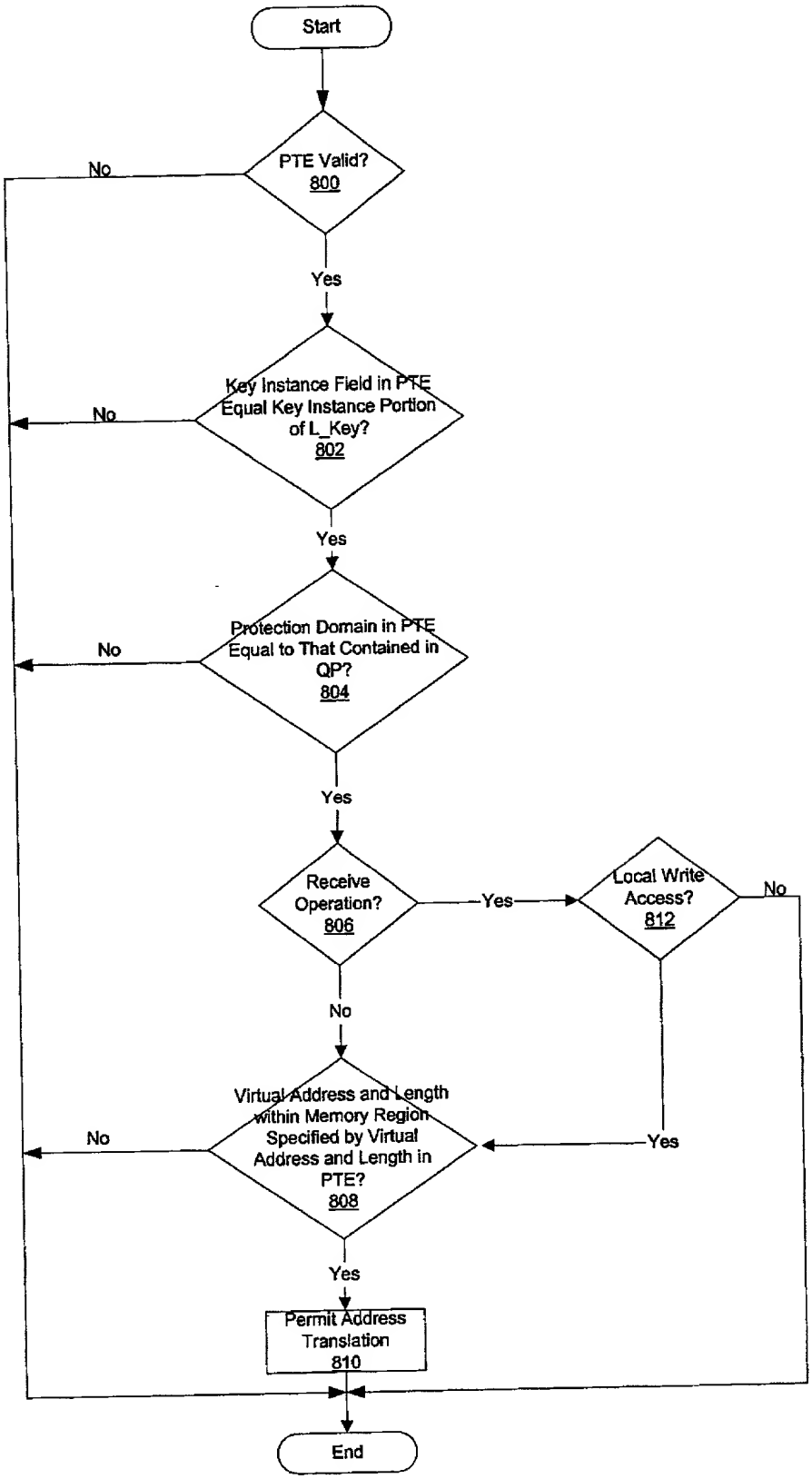
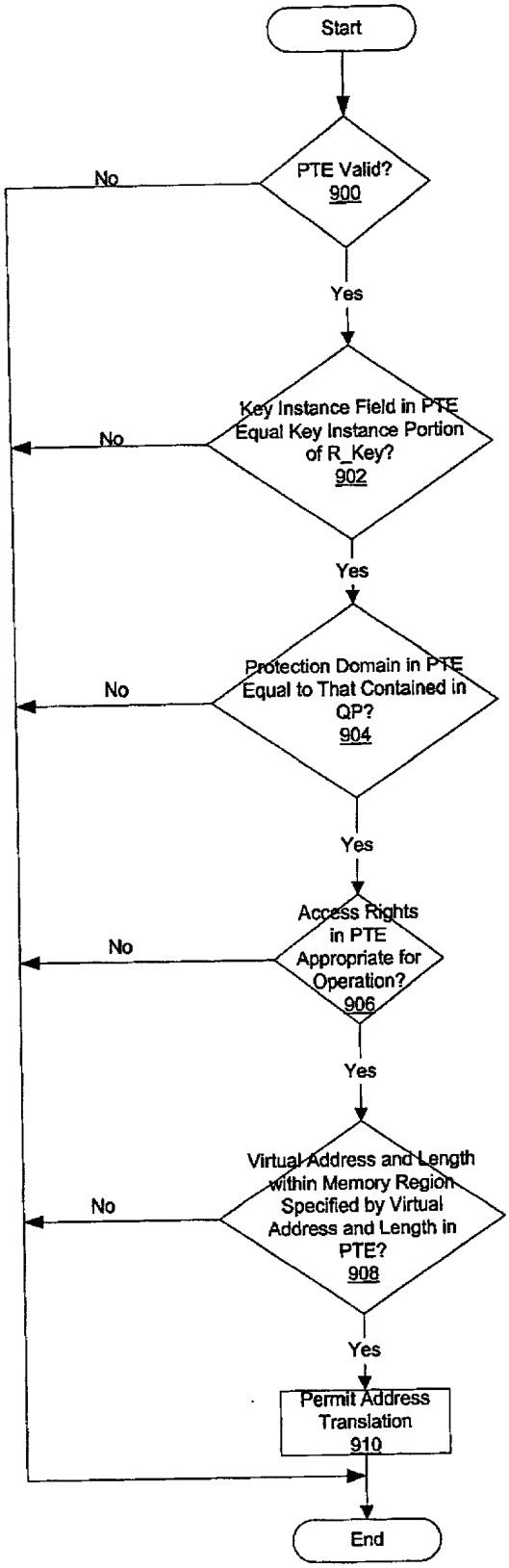

Start
PTE Valid?
800
No
Yes
Key Instance Field in PTE Equal Key Instance Portion of L_Key?
802
No
Yes
Protection Domain in PTE Equal to That Contained in QP?
804
No
Yes
Receive Operation?
806
Yes
Local Write Access?
812
No
No
Virtual Address and Length within Memory Region Specified by Virtual Address and Length in PTE?
808
No
Yes
Yes
Permit Address Translation
810
End

Figure 9


Start
PTE Valid?
900
No
Yes
Key Instance Field in PTE Equal Key Instance Portion of R_Key?
902
No
Yes
Protection Domain in PTE Equal to That Contained in QP?
904
No
Yes
Access Rights in PTE Appropriate for Operation?
906
No
Yes
Virtual Address and Length within Memory Region Specified by Virtual Address and Length in PTE?
908
No
Yes
Permit Address Translation
910
End